

WHAT IS CLAIMED IS:

1. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame comprising:

- (a) providing metadata associated with the motion picture frame, said metadata defining the predetermined region of the frame; and
- (b) applying a colorimetric transform to pixels within the predetermined region, modifying the at least one colorimetric attribute thereby.

2. A method for modifying at least one colorimetric attribute according to claim 1 wherein said predetermined region comprises an area having a flesh tone.

3. A method for modifying at least one colorimetric attribute according to claim 1 wherein said predetermined region comprises an area having a hair color.

4. A method for modifying at least one colorimetric attribute according to claim 1 wherein said predetermined region comprises an area having an eye color.

5. A method for modifying at least one colorimetric attribute according to claim 1 wherein the step of providing metadata comprises the step of providing coordinates within the motion picture frame.

6. A method for modifying at least one colorimetric attribute according to claim 1 wherein the step of applying a colorimetric transform comprises the step of applying a look-up table.

7. A method for modifying at least one colorimetric attribute according to claim 1 further comprising the step of displaying the motion picture frame having said modified at least one colorimetric attribute.
8. A method for modifying at least one colorimetric attribute according to claim 7 wherein the step (b) of applying the colorimetric transform is done during the step of displaying.
9. A method for modifying at least one colorimetric attribute according to claim 1 wherein the step of applying a colorimetric transform comprises the step of conforming within predetermined limits for flesh tones, said predetermined limits specified in said metadata.
10. A method for modifying at least one colorimetric attribute according to claim 6 wherein said look-up table is specified in said metadata.
11. A method for modifying at least one colorimetric attribute according to claim 1 further comprising the step of storing the motion picture frame that was modified by applying the colorimetric transform to pixels thereof.
12. A method for modifying at least one colorimetric attribute according to claim 11 wherein the step of storing is performed at a motion picture exhibition site.
13. A method for modifying at least one colorimetric attribute according to claim 1 wherein the motion picture frame is one of a set of consecutively displayed motion picture frames and the modification generated in step (b) is obtained by applying the colorimetric transform to pixels within the set of frames.

14. A method for modifying at least one colorimetric attribute according to claim 13 wherein objects persist from one frame to the next and the modification generated in step (b) is applied consistently across the frames to the same objects.

15. A method for modifying at least one colorimetric attribute according to claim 1 wherein the colorimetric transform is applied to pixels within the whole motion picture frame.

16. A method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames to provide a modified flesh tone, the method comprising, for each frame in the set:

- (a) obtaining image data for the frame;
- (b) identifying at least one area in the frame having the original flesh tone;
- (c) applying a colorimetric transform to said at least one area to modify the original flesh tone over said at least one area and obtain the modified flesh tone; and
- (d) incorporating image data for the modified flesh tone into the frame, forming a modified frame thereby.

17. A method for modifying an original flesh tone according to claim 16 further comprising the step of displaying said modified frame.

18. A method for modifying an original flesh tone according to claim 16 wherein said colorimetric transform comprises a LUT.

19. A method for modifying an original flesh tone according to claim 16 wherein the step of identifying each area in the frame having the original flesh tone comprises the step of forming a bit-mapped mask for at least one said area.

20. A method for modifying an original flesh tone according to claim 16 wherein the step of identifying each area in the frame having the original flesh tone comprises the step of providing a set of positional coordinates for at least one said area.

21. A method for modifying an original flesh tone according to claim 16 wherein objects persist from one frame to the next and the modification generated in step (c) is applied consistently across the frames to the same objects.

22. A method for modifying an original flesh tone according to claim 16 wherein the step of identifying each area in the frame having the original flesh tone comprises the step of applying a skin tone recognition algorithm to said image data.

23. A method for modifying an original flesh tone according to claim 16 further comprising the step of storing said modified frame.

24. A method for modifying an original flesh tone according to claim 23 further comprising the step of storing said modified frame at a motion picture exhibition site.

25. A method for modifying an original flesh tone according to claim 16 further comprising the step of transmitting said modified frame to an exhibition site.

26. A method for modifying an original flesh tone according to claim 16 wherein the step of identifying said at least one area in the frame having the original flesh tone comprises the step of applying at least one of a skin tone algorithm or a facial recognition algorithm to said image data.

27. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame comprising:

- (a) preparing a master motion picture frame having said predetermined region;
- (b) generating metadata identifying said predetermined region;
- (c) transmitting said master motion picture frame and said metadata to an exhibition site; and
- (d) applying a colorimetric transform at the exhibition site to pixels of said master motion picture frame within said predetermined region, thereby modifying the at least one colorimetric attribute.

28. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27 further comprising the step of displaying a modified master motion picture frame.

29. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27 wherein the step of preparing a master motion picture frame having metadata comprises the steps of

- (a) identify said predetermined region by processing a master motion picture frame and generating said metadata identifying said predetermined region; and
- (b) associating said metadata with said master motion picture frame.

30. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 29 wherein the step of processing said master motion picture frame comprises the step of applying a recognition algorithm to said pixels of said master motion picture frame.

31. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27 wherein the

step of applying a colorimetric transform requires an operator selection from a plurality of available colorimetric transforms.

32. A method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27 further comprising the step of storing the motion picture frame that was modified at the exhibition site.

33. A method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames to provide a modified flesh tone, the method comprising:

- (a) processing said set of consecutively displayed digital motion picture frames to generate metadata identifying areas having the original flesh tone;
- (b) transmitting, to an exhibition site, a master motion picture comprising said set of consecutively displayed digital motion picture frames and said metadata;
- (c) Receiving said master motion picture and said metadata at said exhibition site; and
- (d) applying a colorimetric transform to said set of consecutively displayed digital motion picture frames, according to said metadata, to modify said areas having the original flesh tone, forming a modified set of consecutively displayed digital motion picture frames thereby.

34. A method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33 further comprising the step of storing said modified set of consecutively displayed digital motion picture frames.

35. A method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33 further

comprising the step of substituting said set of consecutively displayed digital motion picture frames into said master motion picture to form a modified motion picture.

36. A method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33 wherein the step of applying said colorimetric transform is performed during display of said modified motion picture.

37. An exhibition system for projecting a digital motion picture comprising:

- (a) a server for receiving digital motion picture data;
- (b) a control console for accepting, from an operator, assignment of a selected color transform to identified image frames of the digital motion picture; and
- (c) a display system for obtaining the digital motion picture data from said server as a sequence of said image frames, for applying color modification data to at least a portion of each of a plurality of successive said image frames to form color-modified image frames according to said selected color transform, and for displaying said color-modified frames accordingly.

38. An exhibition system according to claim 37 wherein said color transform comprises a look-up table.

39. An exhibition system according to claim 37 wherein said selected color transform is chosen from a library of available transforms.

40. An exhibition system according to claim 37 wherein said at least a portion of each of said successive image frames is identified in metadata provided to said server.

41. An exhibition system according to claim 37 wherein said selected color transform adapts skin tone colorimetric characteristics.

42. A method for modifying at least one attribute of an object confined to a predetermined region of a motion picture frame, said method comprising:

- (a) providing metadata associated with the motion picture frame, said metadata defining the predetermined region containing the object; and
- (b) applying a transform to pixels within the predetermined region, thereby modifying the at least one attribute of the object whereby the object is treated differently relative to other objects in the frame.

43. A method for modifying at least one attribute of an object as claimed in claim 42 wherein the transform modifies the sharpness of the object.

44. A method for modifying at least one attribute of an object as claimed in claim 42 wherein the object is a face.